

The American FERTILIZER

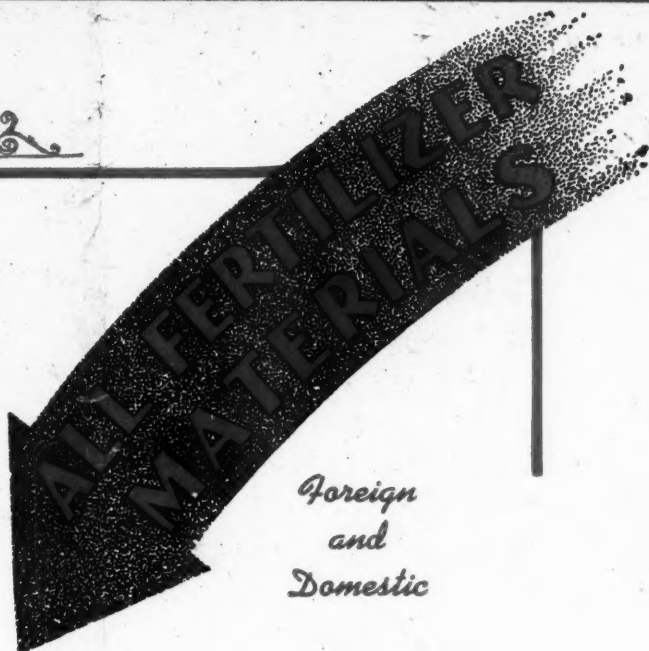


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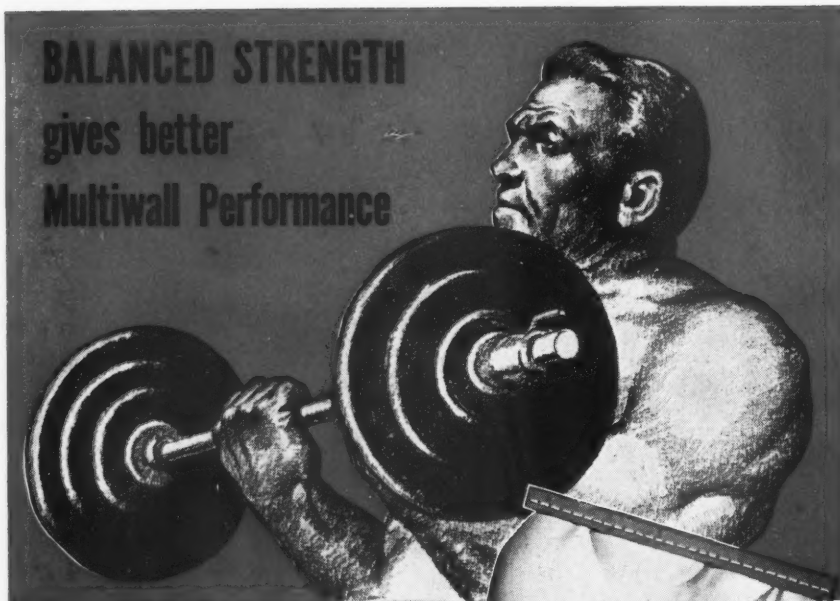
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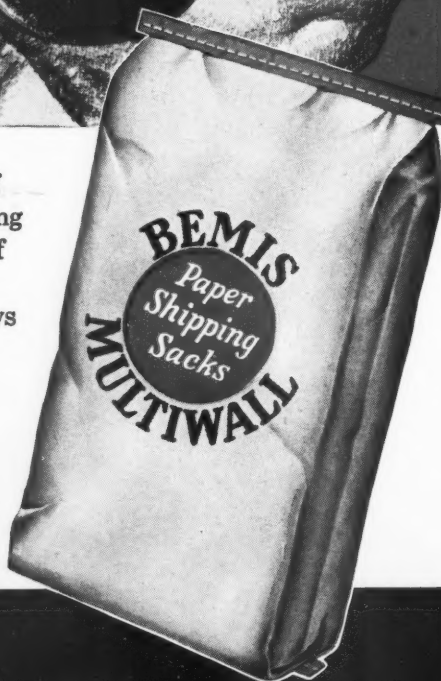
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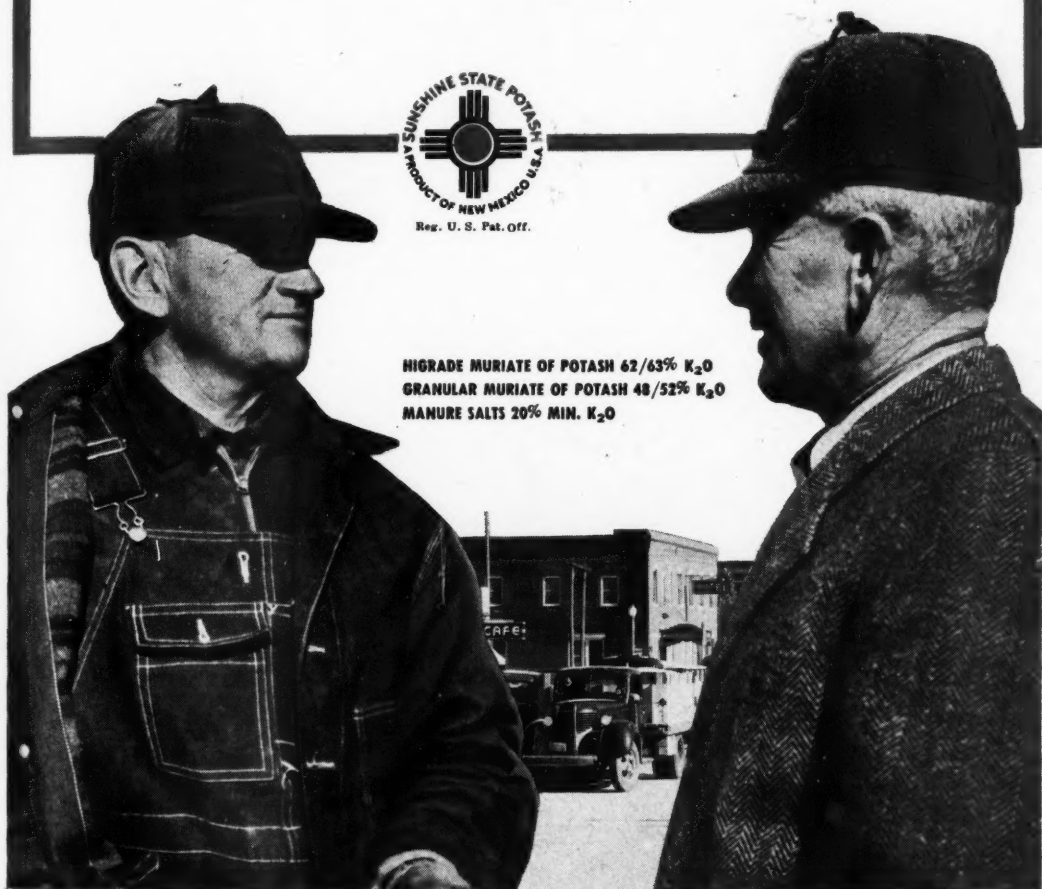
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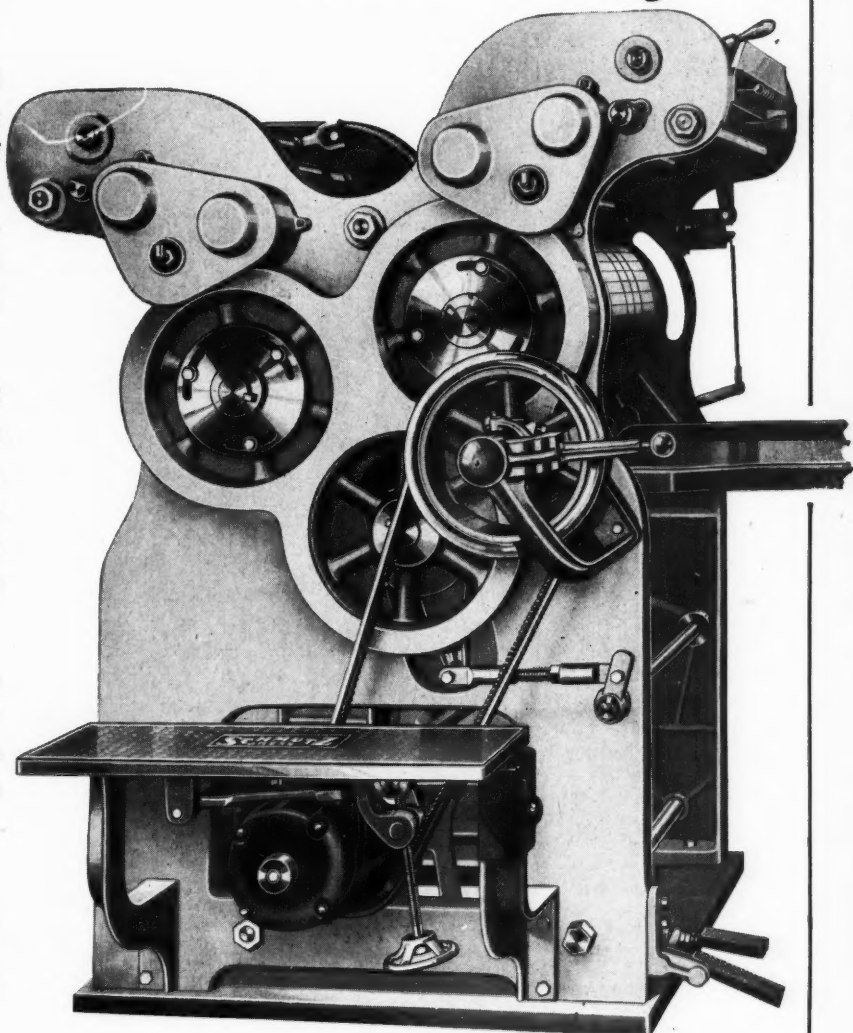
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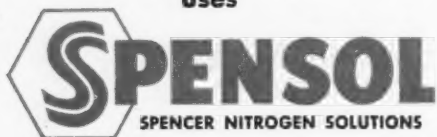
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SPENSOL B	55.5	26.0	18.5	40.8	9.71	31.10
SPENSOL C	66.8	16.6	16.6	37.0	11.69	25.34

MANUFACTURERS OF HI-NITROGEN AGRICULTURAL PRODUCTS

The American FERTILIZER

Vol. 110

MARCH 19, 1949

No. 6

Congressional Hearing on Nitrogen Shortage

Subcommittee of House Agricultural Committee Reviews Situation. Improvement in Supply Expected for Next Year. Army To Handle Nitrogen Export Requirements and Thus Increase Domestic Supplies

A COMPREHENSIVE review of the current fertilizer nitrogen supply situation resulted from a 4-day hearing in Washington by the Subcommittee on Fertilizers and Farm Machinery of the House Committee on Agriculture. The hearings, which ran from March 15th to 18th, were attended by representatives of the U. S. Department of Agriculture, various national and state farm organizations, producers of nitrogen fertilizer materials, and fertilizer manufacturers and their industry associations. The hearings were presided over by Chairman Thomas G. Abernathy, of Mississippi.

The committee's hearings showed that while fertilizer nitrogen continues in short supply, the shortage is not as critical as a year ago and industry is gradually narrowing the gap between supply and demand. Among those heard on the first day were witnesses representing the American Farm Bureau Federation, the National Grange and the National Farmers' Union. The first two of these stressed the shortage of nitrogen fertilizers and the need for them, and expressed the hope that the condition would be corrected. The representative of the Farmers' Union made a severe attack on the fertilizer industry and cited the several Government proceedings that had been instituted against industry members over the years. He extolled the accomplishments of the Tennessee Valley Authority, and condemned the industry for

not following their methods and practices, and demanded that action be taken to build additional Government plants for the production of concentrated phosphate materials. He also criticized freely the Department of Commerce for its publication, "Points for New Fertilizer Manufacturers to Consider."

U. S. D. A. Expects Fertilizer Increase

Lewis G. Porter of the fertilizer division of the Department of Agriculture testified that present information suggests that during 1949-1950, supplies of nitrogen for agricultural use could easily reach about 1,070,000 tons, perhaps more, but considerably above 1948-1949; phosphate supplies for the coming year could exceed 2,200,000 tons, as a minimum; and potash supplies in prospect should reach 1,150,000 tons.

During the 1948-1949 fertilizer year, about 955,000 tons of nitrogen are expected to be available for commercial fertilizer, 7 per cent more than for 1947-1948, but still far short of estimated needs, he said. Of this amount, around 814,000 tons represent domestic production, from both commercial and Army sources. International Emergency Food Committee allocations of nitrogen for United States imports total 202,000 tons, and exports to other than occupied areas 61,000 tons, leaving a net import balance of 141,000 tons.

He called attention to the great importance attached to the former Army ordnance

plants in the total nitrogen supply picture. Present production of private plants producing nitrogen materials accounts for approximately 80 per cent of the total supply, including imports; approximately 50 per cent of which is being provided by the five plants built during the war for munitions but since acquired by private interests, and the TVA plant.

Mr. Porter advocated continuing the operation of the Army plants for domestic use which are now supplying the nitrogen needs of the occupied areas. He urged that arrangements for this purpose be worked out at an early date.

Army Ammonia Program Discussed

A detailed discussion was held of the program of the Department of Commerce of allocating anhydrous ammonia from the Army's ordnance production among fertilizer materials producers. Under the Morse amendment last year to the ECA appropriation bill, the Army was required to make available 10 per cent of its anhydrous ammonia to sulphate of ammonia producers. The department's handling of this program has been under sharp attack from industry.

In its administration of the program, the department has given first preference to the anhydrous ammonia to producers of ammonium sulphate who were producing ammonium sulphate during the six months preceding the enactment of the amendment (June 28, 1948) or who had ceased to produce, or who are faced with an imminent shutdown for want of ammonia. Only four plants have been able to qualify for preferential treatment, Frederic Arden, acting chief of the chemicals division of the Office of Domestic Commerce, said. No allocation has been made to any plant that came into being after June 28.

The remaining anhydrous ammonia, he added, was then apportioned among the primary producers of nitrogen who were being called upon to supply the fertilizer materials needed in the IEFC allocation program. The amount of nitrogen made available for the export program by the eleven companies participating equals 3.25 per cent of each company's production. The anhydrous ammonia allotted to them from the Army production equals 1.5 per cent of each company's production.

The four companies in the preference group are: Columbia Metals Corporation, Salem, Ore., which received ninety-six cars a quarter; Farm Service Corporation, Oakland,

Calif., sixty-six cars; Greenville Chemical Company, Greenville, Miss., eighteen cars, and A. F. Pringle Company, twenty-six cars.

Mr. Arden explained that the Greenville Company participated in the export program and thus should not be considered in the preference group. But the company will complete its export program at the end of this month and then would face a shutdown and so was allotted the twenty-six cars for the quarter. The Pringle plant, as well as the Greenville company, has been in business about a year.

Nitrogen Producing Companies Testify

Following the testimony of the government officials, several of the industry representatives took the stand to explain what their companies were doing to meet the demand.

Fred T. Techter, of Allied Chemical and Dye Corporation, said that his company was producing nitrate of soda at double last year's rate. He said the company was forced into the export program against its wishes and was required to export $3\frac{1}{4}$ per cent of its production.

Joe E. Culpepper, of Spencer Chemical Company, said that the Spencer plants were operating in excess of the rated capacity and for the current year 75 per cent of its ammonia production was going into fertilizer products. Plans have been announced, he added, for increasing production facilities to produce an additional 30,000 to 40,000 tons of anhydrous ammonia per year, a large part of which will be marketed for agricultural use. The completion date is tentatively set for April, 1950.

Frank S. Washburn, of American Cyanamid Company, protested the scheduling of export requirements from his company. He said the orders should be placed during the slack summer months, but instead they have come in the period when the company is trying to make its domestic shipments.

S. L. Nevins, of Mathieson Chemical Corporation, testified that at the present time all of the anhydrous ammonia production from its Lake Charles plant is going to a single customer, but this contract will terminate at the end of June, and the ammonia will be made available to agriculture in the form of high analysis materials. The ammonia is to be shipped to Mathieson's Houston plant for making of fertilizer. Plans have been drawn up for increasing production at the Houston plant, he added, but because of the recent business slump they are being

(Continued on page 28)

Plant Food Council and Grange Sponsor Essay Contest

A nation-wide essay contest on "Conservation of Our Soil Resources" with \$15,000 in prizes has been announced by the National Grange and the American Plant Food Council for young men and women through 20 years of age, beginning March 15th and ending June 15th.

Judges of the contest will be: Secretary of Agriculture, Charles F. Brannan, chairman; Dr. Hugh H. Bennett, chief, Soil Conservation Service, U. S. D. A.; Mrs. Malcolm Byrnes, president, National Home Demonstration Council, Ethel, La.; Dr. W. T. Spanton, chief, Agricultural Education Service.



Albert S. Goss (left), master of the National Grange, extends best wishes to Clifton A. Woodrum, president of the American Plant Food Council, for the success of the National Essay Contest sponsored by the two organizations

U. S. Office of Education and Dr. M. L. Wilson, Director of Extension Work, U. S. D. A.

Albert S. Goss, master of the National Grange, said: "As America's oldest farm organization, we are vitally concerned with the 'Conservation of Our Soil Resources,' realizing that without fertile lands, as a Nation we cannot continue our position of agricultural and industrial leadership.

"By encouraging the youth of the Nation to become more concerned with the conservation and wise use of our soils," he added, "we are looking to farming's future which will largely be the future of the Nation."

Clifton A. Woodrum, president of the American Plant Food Council, said: "As a trade association representing a cross section of the fertilizer industry, we have a primary interest in maintaining and increasing the fertility of our soil.

"The Council's participation in this worthwhile project," he added, "is in keeping with our support of sound agricultural programs designed to give greater emphasis to adequate land management practices so essential in an economy of abundance."

Prizes offered by the American Plant Food Council are: National—first prize, a nationally known (Buick Super, 4-door sedan) automobile; second prize, also a nationally known (Chevrolet De Luxe, 4-door sedan) automobile; third, \$750; and fourth, \$250.

Awards in Grange states—first, \$150; second, \$75; and third, \$50.

In states where the Grange is organized, entries are to be sent to the nearest Subordinate Grange. In non-Grange states, participants are eligible only for national awards and should send their entries to the Conservation Committee, National Grange, 744 Jackson Place, N. W., Washington 6, D. C.

Contest judges explained that each entrant's treatment of conservation principles "may be based on information from textbooks, bulletins, motion pictures, interviews or personal experiences, but practical application of the subject to the land in the community, state or nation will be given special consideration in the judging of each paper."

Entries must not exceed 800 words and will be judged on the basis of 55 points for effectiveness, 20 points for originality, 15 for practical application of subject matter and 10 for grammatical correctness.

Commercial Solvents Earnings

Net 1948 earnings of the Commercial Solvents Corporation, New York, were \$5,543,237, equal to \$2.10 per share, compared with 1947 earnings of \$9,068,430, equal to \$3.44 per share, it was revealed in the company's annual report, released last Friday.

In his letter to stockholders, Henry E. Perry, president, stated that the market for anhydrous ammonia applied directly to the soil as fertilizer had "assumed astounding proportions" last year. The company's ammonia plant at Sterlington, La., he said, operated at full capacity throughout the year but had been able to supply but a fraction of the demand made upon it.

Midwest Fertilizer Conference

The annual meeting of Midwestern agronomists and representatives of the fertilizer industry was held at the Palmer House, Chicago, on February 18th. The meeting was sponsored by the Middle West Soil Improvement Committee.

Soils research men from thirteen Midwestern agricultural colleges, as well as representatives of the U. S. Department of Agriculture and the American Society of Agronomy were present. The attendance likewise included representatives of sixty-one companies in the fertilizer, farm machinery, supplies, equipment and transportation industries. Registration totaled 170.

Presiding at the meeting was Dr. F. C. Bauer of the University of Illinois. The program was conducted by the agronomists.

Reports on new research developments in soils, crops and fertilizer were presented by agronomists from each of the colleges at the morning session. The agronomists described results of corn fertilizing tests and crop response to different applications and placement of nitrogen, phosphate and potash. They cited yield increases resulting from good soil and crop management and utilizing optimum corn stalk population per acre plus plant food to add extra bushels per acre.

Research men presented studies of minor element deficiencies, their geographical occurrence and crop response to borax, manganese and magnesium. It was reported that in one boron-deficiency area in Wisconsin, alfalfa yields had been tripled in some cases by the application of 40 pounds of borax as a top-dressing in the spring. Other research topics discussed were rebuilding pasture land and increasing yields of small grains and hay crops, fertilizer ratios, application rates and placement, crop response to plant food in newer farming areas, the value of sound rotations and well-fed deep-rooted legumes in building soil structure, adding organic matter, improving tilth and boosting crop yields per acre.

Among agronomists presenting reports at the morning session were: Prof. A. L. Lang, University of Illinois; Dr. A. J. Ohlrogge, Purdue University; Dr. L. B. Nelson, Iowa State College; Dr. H. E. Myers, Kansas State College; Mr. Harold F. Miller, University of Kentucky; Dr. J. F. Davis, Michigan State College; Dr. A. C. Caldwell, University of Minnesota; Prof. A. W. Klemme, University of Missouri; Dr. H. F. Rhoades, University of Nebraska; Dr. E. B. Norum, North Da-

kota Agricultural College; Dr. G. W. Volk, Ohio State University; Dr. L. F. Puhf, South Dakota State College; Dr. K. C. Berger, University of Wisconsin.

Other agronomists from the colleges taking part in the meeting were: R. H. Bray, University of Illinois; N. J. Volk, G. H. Enfield, J. B. Peterson and G. F. Warren, Purdue University; R. I. Throckmorton and Floyd Davidson, Kansas State College; Martin E. Weeks, University of Kentucky; C. E. Miller, L. M. Turk, and R. L. Carolus, Michigan State College; C. O. Rost and Paul Burson, University of Minnesota; E. R. Graham, University of Missouri; M. D. Weldon, University of Nebraska; Chester E. Evans, Ohio Agricultural Experiment Station; L. O. Fine, South Dakota State College; and Emil Truog, University of Wisconsin.

A question and answer session was the feature of the afternoon session. Agronomists discussed additional phases of subjects covered in the morning program. A discussion on the relationship of soil fertility to crops and human and animal nutrition brought an exchange of views from a number of research men. At the close of the afternoon meeting a report on fertilizer recommendations was presented by Dr. Millar and Prof. Truog. This included the recommendations by the various state colleges of fertilizer grades for their particular states for the year beginning July 1, 1949.

At the conclusion of the meeting, Zenas H. Beers, executive secretary of the Middle West Soil Improvement Committee, expressed the industry's thanks to the agronomists for their cooperation. This cooperation, he said, is a vital factor in encouraging soil conservation and improved farming practices. Mr. Beers said that anyone interested in obtaining a copy of the proceedings may do so by writing to the Middle West Soil Improvement Committee, 121 West Wacker Drive, Chicago, Ill.

Collier Joins Synthetic Nitrogen Sales Force

The Synthetic Nitrogen Products Corporation, of New York, has announced the appointment of Cliff Collier as Georgia representative for their fertilizer products. Mr. Collier started his connection with the fertilizer industry in 1929, as a member of the staff of N. V. Potash Export My. He later joined the French Potash and Import Company, remaining with them until 1943, when he entered the Army.

Price Support for Oats, Barley and Rye

Price support programs for 1949 crop of oats, barley, and rye, to be implemented through Commodity Credit Corporation loans and purchase agreements with farmers, were announced on March 17th by the U. S. Department of Agriculture. All programs will be administered in the field by Branch and commodity offices of the Production and Marketing Administration through State PMA and county agricultural conservation committees.

Price support for oats will reflect to producers a weighted average rate equal to 70 per cent of the oats parity price as of April 15, 1949; and for barley and rye a weighted average equal to 72 per cent of the barley and rye parity prices as of April 15, 1949. These rates reflect the approximate feeding value of these grains in competition with corn. The percentage-of-parity rates for oats and rye are the same as last year's rates, but the percentage rate for barley has been lowered from 75 per cent of parity in order to place barley in a better competitive position with other food grains in the domestic feed market.

Loans and purchase agreements for oats, barley, and rye will be available from time of harvest through January 31, 1950. Last year these supports were available through December 31, 1948. Loans, to be made on 1949-

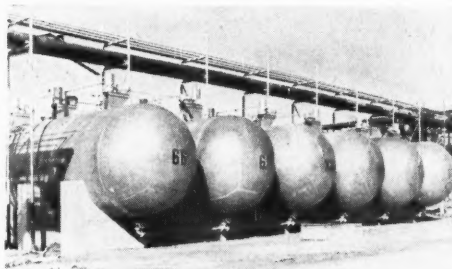
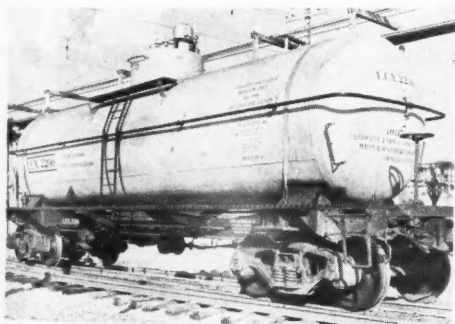
crop farm-stored and warehouse-stored grain, will mature on April 30, 1950 or earlier on demand. Holders of purchase agreements must declare within 30 days prior to April 30, 1950 or an earlier date as may be determined by CCC, their intentions to sell to CCC.

Solar Evaporation for Nitrate of Soda Production

The new solar evaporation process for the production of sodium and potassium nitrates in Chile has passed the experimental pilot-plant stage and arrangements for its exploitation on a commercial basis are now in progress, according to a recent report from that country. It is expected that the method will be comparatively economical and will extend substantially the life of the available nitrate grounds. It will permit the use of residues which could not otherwise be utilized.

Goals Set for Spanish Potash Production

A report from Spain states that the potash industry of that country has set a production goal of 200,000 tons K_2O during 1950. After caring for domestic needs, this would leave a surplus of 140,000 tons K_2O for export. For 1952, the aim is to produce 250,000 tons, of which 190,000 tons would be available for export.



LION OIL COMPANY INSTALLS NEW ALUMINUM EQUIPMENT

The Lion Oil Company has completed the installation of several items of aluminum equipment at their plant at El Dorado, Arkansas. The tank car shown above is used for transporting nitrogen solutions under pressure. The all-aluminum tank mounted on the latest type of running gear was specially constructed for the Lion Company

The above battery of aluminum storage tanks at the Lion Chemical plant at El Dorado, Arkansas is used for the storage of nitrogen fertilizer solutions under pressure. These are understood to be the largest pressure vessels ever fabricated out of aluminum. By their use, the corrosive effects of these solutions on ordinary tank metals is avoided

THE AMERICAN FERTILIZER

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No. 6

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Proposed State Fertilizer Bills

California. Assembly Bill No. 92 would provide facilities for technological work with fertilizers and fertilizer materials, and for research on soil fertility and fertilizer placement practice. The program would be supervised by a board of fertilizer industry members, appointed by the governor, and would be paid for from the present fertilizer tonnage tax. The aims of the program are to evaluate new fertilizer materials for California agriculture, to encourage California fertilizer manufacturers to produce new materials and compounds, to aid in agricultural research, and to disseminate the results among farmers and growers.

North Carolina. S. B. 212 and H. B. 607 are identical bills proposing to amend the fertilizer control law by (1) requiring that all tobacco fertilizer contain a "minimum of 2 per cent magnesium oxide or its equivalent in magnesium"; (2) requiring that in lieu of the grade tag now required to be attached between the ears of the bag the grade may be printed on the end of the bag in readily legible numerals; and (3) providing regulations whereby the Commissioner of Agriculture, upon application, may permit the monthly reporting of shipments and payment of inspection fees in lieu of "inspection stamps". A cash deposit or approved surety bond of at least \$1,000 must be furnished to the Commissioner before a permit is granted.

Maine. Legislative Document No. 1268 provides an inspection fee of one cent a ton on fertilizer sold during the twelve months preceding July 1 of each current year.

Legislative Document No. 484 as an addition to present law provides that if any plant food, in addition to nitrogen, phosphoric acid, potash and magnesium is claimed, it must be guaranteed as to both maximum and minimum content in terms of the element, together with the major fertilizer material or materials used to supply the element.

Idaho. S. B. 196 proposes a new fertilizer control law providing a registration fee of \$25 a brand and (by amendment) an inspection fee of 10 cents a ton. A minimum plant-food content is provided of 15 per cent of nitrogen for straight nitrogen fertilizers, of 16 per cent of available phosphoric acid (P_2O_5) for straight phosphate, and 30 per cent potash for straight potash fertilizers. Penalties for deficiencies are set forth.

Kansas. H. B. 152 proposes to eliminate superfluous language and simplify the control

law. Reports of tonnage shipped into the State and payment of tonnage fees are provided in lieu of tax tags to be purchased and affixed to the packages.

Radioactive Fertilizer to be Used in Virginia Research

Radioactive isotopes to test the use of fertilizer by plants will figure in research at Virginia Experiment Station for the first time this year, Dr. S. S. Obenshain, agronomist, announces.

The researchers will aim particularly at charting the course of phosphorus in pasture crops, and at upping the "availability" of the fertilizer.

Dr. Obenshain explains that only 5 to 20 per cent of phosphorus available in the soil, or applied as commercial fertilizer, is used by any crop. Phosphorus, thus, is known as a fertilizer with "low availability."

Virginia farmers, he says, spend about \$10,000,000 each year for phosphorus. If the availability can be increased, it will mean an annual saving of several million dollars.

Radioactive phosphorus can be applied to the soil and then can be located in any part of the plant by a Geiger counter placed against the outside surface. The instrument measures the number of impulses given off by the radioactive material.

The laboratories at the Virginia Polytechnic Institute already have been equipped with a Geiger rate meter, and with a similar instrument known as the Laurensen electroscope. The radioactive fertilizer has not yet been received, but will come from Oak Ridge, Tenn., through the Bureau of Plant Industry in Washington. Research with the material this year will be solely in greenhouses, with pasture plants such as Ladino clover.

Dr. Obenshain says one of the major problems in fertilizing crops is to know the source of, for instance, phosphorus, that goes into the plant. Does it come mainly from the natural phosphorus stores in the soil, or from the phosphorus applied to the plant in the form of fertilizer? Does the use of lime affect the plant's uptake of phosphorus? Is there a way to get more penetration of phosphorus in the soil—that is, a way to make the phosphorus go deeper into the soil so that it will be in the entire feeding zone of the plant?

The normal feeding zone of ordinary grass plants is 4 to 6 inches beneath the surface of the ground. As things stand now, phosphorus penetrates only to a depth of 1 to 2 inches.

The researchers hope to find answers to these questions and to many others. Working on the project will be Dr. Obenshain, W. W. Moschler, and J. F. Lutz, Jr. They will cooperate with the physics department at V. P. I., which also has equipment for research with radioactive materials.

Oregon Company Allotted Army Ammonia

A West Coast fertilizer producer has been authorized by the Department of Commerce to continue to draw on unused portions of a quota of Army-produced anhydrous ammonia allocated to him by the Department for use during the fourth quarter of 1948, it was announced March 8th.

The action was taken following a hearing before the department's appeals board, on an appeal of the Columbia Metals Corporation, Salem, Ore. The Office of Domestic Commerce had ruled that the company had forfeited its right to receive fifty-one carloads of anhydrous ammonia which it had not ordered delivered from Army plants during the October-December, 1948 period, for which the material had been allocated. ODC had assigned the Columbia company its full quota for the subsequent quarter, however.

In its appeal, Columbia Metals stated that it had been forced to shut down the Salem plant in consequence of a shortage of warehouse space resulting from a longshoremen's strike. It would have been impossible, the company said, to store fertilizer had it been produced.

The appeals board said that decision to grant the company's appeal was based on the board's findings that demand for nitrogenous fertilizers was far in excess of supply in the northwest and that the shutdown of the Salem plant was involuntary and beyond the company's control.

Arkell & Smiths Promotes Peterson

S. S. Yates, chairman of the board, Arkell & Smiths, multiwall paper bag manufacturers, recently announced the promotion of H. C. Peterson, to the office of Assistant Sales Manager. Mr. Peterson will make his headquarters at the company's general offices in Canajoharie, N. Y. H. S. Hollingsworth has been appointed Sales Manager of the Metropolitan New York Area to fill the vacancy left by Mr. Peterson's promotion.

International Opens New Refinery for Potassium Chloride

The potash center of America at Carlsbad, New Mexico, is adding to its output of chemical grade potassium chloride with initial production getting underway currently at a new refinery completed by International Minerals and Chemical Corporation earlier in March.

Erection of the new refinery immediately adjacent to the existing potash manufacturing facilities of the corporation was accomplished to help satisfy the demand for a high grade chlorine in the electrolytic processes incident to the production of caustic potash in this country, according to A. Norman Into, vice-president in charge of International's potash division.

The increased output of caustic potash as well as another basic chemical—potassium carbonate—both of which are the starting points for a large number of potassium end products, has been greatly spurred by continuing demand resulting from wartime developments of potash chemicals, Mr. Into pointed out. Together with added facilities for these two basic materials, a substantial amount and variety of other potassium chemicals have been developed by the industry during the past few years which have also added to the demand for the chemical grade potassium chloride.

Coincident to the production of the high grade chloride, a revised process for the production of improved potassium sulphate is now being used at the new International refinery in Carlsbad. The higher grade sulphate is being refined to meet the needs of an increasing number of industries utilizing it as a basic potassium material as well as for agricultural application by fertilizer manufacturers. By virtue of its output of these chemical grades of potash, International is

taking another step in its long range program of expanding into the chemical field, which is part of the policy which has been responsible for much of its extraordinary expansion in chemical and other industrial markets during the past decade. The new product will round out their line of agricultural potash salts, including sulphate of potash-magnesia.

The new potash refinery cost approximately $1\frac{1}{2}$ million dollars and was constructed by the Stearns-Roger Manufacturing Company of Denver who also contributed to the design and engineering. Preliminary layout design was handled by Western-Knapp Engineering Company of San Francisco. Output capacity is expected to be upwards of 20,000 tons annually when full production is achieved later this year.

Starting with the standard grade muriate of potash, the refining process for the high purity chloride employs a crystallization technique developed by International's research staff at Carlsbad. In addition to the crystallization process, the production of the chloride has been tied in with the existing sulphate production through an improved base exchange process. The new plant is closely associated also with the existing flotation process for the production of agricultural grade muriate of potash. The physical association between the processes is intended to affect higher recoveries of potash values throughout the entire system as well as achieve purer products than those formerly manufactured.

The new plant is expected to require a substantial number of employees when in full production, in addition to the 750 employees now on the corporation payroll in Carlsbad. Resident manager of the potash division at Carlsbad is George T. Herley who will supervise the operations of the new refinery.

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NEW YORK

Some Price Increases in Sulphate of Ammonia Reported with Supply Still Short. Situation Improves Slightly in Other Chemical Nitrogen Materials. Fertilizer Trade Using More Organics. Phosphate Supply Adequate with Reports of Price Cutting. No New Shipments of Foreign Potash Announced

Exclusive Correspondence to "The American Fertilizer"

NEW YORK, March 16, 1949.

Sulphate of Ammonia

One important producer recently raised the price to \$48.00 per ton, f.o.b. production points, and at the present time there is a range in price from \$45.00 to \$50.00 per ton, according to where the material is obtained. Supplies are tight and the demand heavy.

Nitrate of Soda

Increased supplies of this material have eased the situation somewhat in certain sections but the demand is still heavy in most areas. A better supply situation is looked for in the coming season.

Ammonium Nitrate

While production is a little heavier at various plants, the demand is strong enough to create a shortage. Manufacturers hope to be in a better position next season.

Organics

Organic materials were in better demand from the fertilizer trade but the feed trade did not show too much interest. Tankage and blood were slightly lower and several sales were made at Eastern shipping points of both materials at \$7.50 per unit of ammonia (\$9.12 per unit N). Further offerings were unsold at the same price. Cottonseed meal was quoted at \$56.00 per ton, f.o.b. Memphis in bags, and linseed meal was off \$1.00 to \$2.00 per ton at \$67.50 per ton, f.o.b. Eastern points in bulk. Soybean meal sold at \$56.00 per ton in bulk, f.o.b. Decatur, Ill. It is expected the demand from the fertilizer trade will be over in another 30 days.

Castor Pomace

After producers recently cut prices on this material, they were able to sell their estimated production over the next four months

and have withdrawn from the market, as they estimate their production will be lower due to the poor oil business.

Nitrogenous Tankage

Producers report shipments moving better and no price changes were reported.

Hoof Meal

With sales made at \$7.00 per unit of ammonia (\$8.51 per unit N), supplies are limited and demand is good.

Bone Meal

The demand for bone meal is heavy from all sections and producers are out of the market or sold ahead. This is one material that will be short for probably at least another six months.

Fish Meal

No further trading was reported in fish scrap on a "when and if made" basis after heavy recent sales. The fishing companies preferred to wait to see how the catch will turn out. Spot fish meal is selling to the feed trade at very high prices, due to the scarcity.

Potash

While some French material recently arrived at Atlantic ports, no further word was received of any arrivals of potash from other countries. Domestic producers are shipping out against contracts as quickly as possible but some buyers are still short.

Phosphate Rock

Some price reductions were reported in this material, due to lower coal and oil prices, which affect the price of this material. Shipments are reported slow at the present time.

Superphosphate

While shipments are heavy to consuming

areas, it is thought the material is in ample supply and no shortage is looked for. In fact, some undercover price cutting has been reported at production points where supplies are heavy. Triple superphosphate is still in demand and the supply is not great enough to fill all needs.

CHARLESTON

Nitrogen Shortage Retards Fertilizer Production. Better Movement of Superphosphate. Drop in Price of Florida Phosphate Rock

Exclusive Correspondence to "The American Fertilizer"

CHARLESTON, March 14, 1949.

Nitrogen continues to be the governing factor in the production of fertilizers, with all forms, except organics, short of demand. Recent strikes and breakdowns in the sources of supply have particularly aggravated the supply situation. Potash shipments are on schedule but demand continues strong. Superphosphate demand is increasing and stocks are being cut down, but indications are that most areas will have sufficient supplies although certain areas report a tightening market.

Organics.—Demand continues slack for organics, not only from the fertilizer trade but also from the feed trade. Nitrogenous tankage is offered at \$3.00 to \$4.00 per unit of ammonia (\$3.64 to \$4.86 per unit N) in bulk, f.o.b. production point, depending on its location. Imported organics continue above domestic buyers' views of price.

Castor Pomace.—In recent weeks this material has sold at \$21.00 per ton in bags, f.o.b. northeastern production points, but producers are sold up through June, 1949. Movement is primarily against existing contracts.

Dried Ground Blood.—Blood has recently sold at \$7.50 to \$7.75 per unit of ammonia (\$9.12 to \$9.42 per unit N) in bulk, f.o.b. Baltimore and New York, with the Chicago market quiet at around \$8.00 per unit of ammonia (\$9.72 per unit N).

Potash.—Movement is primarily against existing contracts and all tonnage is being readily absorbed by the fertilizer trade. No change in price has been noted. Demand continues in excess of supply.

Phosphate Rock.—The price of Florida phosphate rock is reported reduced, due to reduction in the cost of oil to \$1.85 per barrel. On the other hand the price of Tennessee rock has advanced, due to an increase in price of coal. The market, however, continues in balance with sufficient supplies to meet the domestic demand.

Superphosphate.—Demand is increasing as the season progresses, with expected expansion of demand through March and April. Heavy sticks are rapidly being relieved of pressure.

Sulphate of Ammonia.—Another producer has advanced the price, effective March 1, to \$48.00 per ton in bulk, f.o.b. production point and the price range is \$45.00 to \$48.00 at other ovens. Demand continues far in excess of supply.

Nitrogen Solutions.—As of March 11, a strike is in force at the plant of a major producer of solutions and is causing critical shortage of this form of nitrogen in the lower southeast. A recent breakdown at another plant lost seven to eight days' production, estimated at sixty carloads, which are not expected to be made up. This further tightens the market on chemical nitrogen.

Ammonium Nitrate.—December production of original solutions is reported at 83,488

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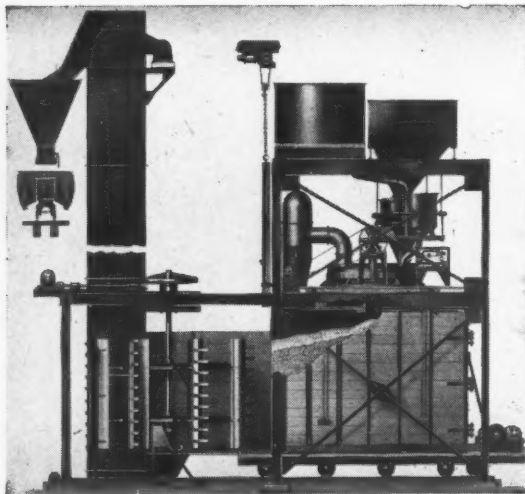
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tons, of which 68,359 tons was fertilizer grade. Demand continues far in excess of supply and the market is tight.

PHILADELPHIA

Chemical Nitrogen Supply Still Short. Drop in Mixed Fertilizer Sales Expected. No Change in Phosphate and Potash Situations.

[Exclusive Correspondence to "The American Fertilizer"]

PHILADELPHIA, March 14, 1949.

Inquiries for materials are confined almost entirely to chemical nitrogen. There is a marked decline in demand for other raw fertilizer materials and prices are lower. It is estimated that the consumption of mixed fertilizers will be less this season than last.

Sulphate of Ammonia.—Production is still not meeting the demand, and resale offerings are exceedingly limited.

Nitrate of Soda — Demand continues slightly ahead of the supply, but the supply of domestic grade seems to be increasing materially. The Chilean product is reported arriving per schedule.

Ammonium Nitrate.—The supply position is still exceedingly tight, and the Canadian production is reported behind in its shipping.

Castor Pomace.—While most of this production is under contract, a limited tonnage has recently been available at \$21.00 per ton at the producing plants.

Blood, Tankage, Bone.—Due to the absence of demand from the feeding trade, blood and tankage continue in a fairly weak position. Price asked ranges from \$7.00 to \$7.50 per unit of ammonia (\$8.51 to \$9.12 per unit N), with no selling pressure in evidence. Bone meal continues very scarce and is practically out of the market.

Fish Scrap.—The market is practically bare of domestic material. Imported meal is offered at \$145.00 to \$165.00, depending on grade, while \$175.00 is talked of for new catch menhaden.

Phosphate Rock.—Production is steady and is beginning to exceed requirements. The Florida price has been slightly reduced, while Tennessee rock is reported to have been advanced something under fifty cents per ton.

Superphosphate.—Situation is about normal, with deliveries moving out in seasonal volume. No price changes are reported.

Potash.—Production is fairly steady and movement against contracts continues quite freely. The demand, however, is still somewhat ahead of supply.

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CHICAGO

Organic Buying Interest Strong for Current Material. Some Price Increases Reported.

Exclusive Correspondence to "The American Fertilizer"

CHICAGO, March 14, 1949.

Buying interest in animal ammoniates throughout the middle west continues good and as a result the market is strong on the basis of prices previously paid; in some instances advances have been established. The demand, however, remains on a close-position basis rather than long-range as no one appears willing to carry large inventories.

Digester tankage is firm at \$100.00 to \$105.00 per ton in high production areas, with \$10.00 to \$15.00 per ton higher in the outlying districts. Meat scraps are within the same price range.

Dry rendered tankage is firm at \$1.85 to \$1.90 per unit of protein and up to \$2.00 generally asked. Wet rendered tankage is firm at \$7.75 to \$8.25 per unit of ammonia (\$9.42 to \$10.02 per unit N), depending upon quality and location of material.

Dried blood is quoted \$8.00 to \$8.50 per unit of ammonia (\$9.72 to \$10.33 per unit N). Steamed bone meal is unchanged at \$70.00 to \$75.00 per ton and raw bone meal at \$65.00 to \$70.00.

Phosphate Boosts Strawberry Yields

Use of phosphate fertilizer increased strawberry yields as much as 100 crates an acre in tests made in Jefferson County, Kentucky, the past season.

A summary of the results of several fertilizer tests showed an average yield of 249 crates an acre where no phosphate was used; 296 crates where 500 pounds of 20 per cent superphosphate were applied to the acre, and 350 crates where 1,000 pounds were used.

A cooperative program of the county agent's office and farmers would revive small fruit production in Jefferson County. This program includes the use of more fertilizer, better cultivation, insect and disease control, and growing improved varieties.

January Superphosphate Production

The production of superphosphate of all kinds (figured on the basis of 18% A. P. A.) totaled 839,430 tons, according to the figures of the U. S. Bureau of Census. This is an increase of 2 per cent over December but is 10 per cent less than the 926,323 tons produced in January, 1948. This latter decrease was accounted for by the output of normal super which was 100,000 tons less than in January, 1948. Production of the concentrated grade has been increasing steadily. Shipments to dry mixers and the quantity used in the producing plants about equaled production figures, with the result that stocks on hand at the end of the month were about the same as at the end of December, although somewhat higher than they were a year ago.

The tabulated figures are as follows:

	Normal 18% A.P.A.	Concentrated 45% A.P.A.	Base Goods 18% A.P.A.
Production	Tons	Tons	Tons
Jan., 1949.....	736,858	39,064	4,912
Dec., 1948.....	727,149	35,914	5,583
Jan., 1948.....	836,350	33,980	5,023
Shipments and Used in producing plants			
Jan., 1949.....	755,910	42,526	4,919
Dec., 1948.....	681,574	41,814	4,047
Jan., 1948.....	793,304	30,338	10,391
Stocks on Hand			
Jan., 1949.....	1,210,648	67,219	14,211
Dec., 1948.....	1,216,788	70,681	14,203
Jan., 1948.....	918,506	69,776	12,867

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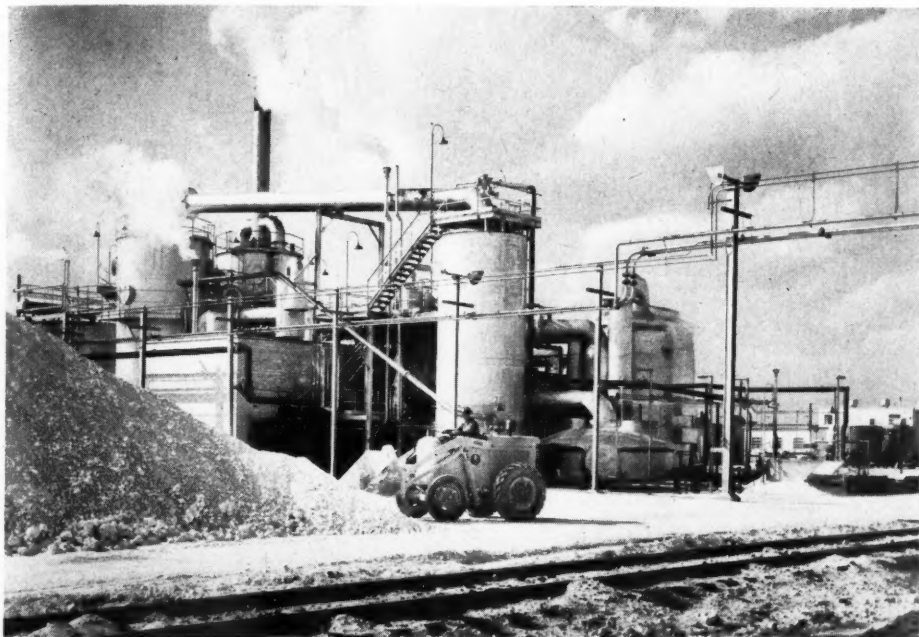
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Howes Succeeds Ludington as Bag Association President

At the annual meeting of the Textile Bag Manufacturers' Association held recently in New Orleans, Homer V. Howes, president of Bemis Bros. Bag Company, was elected president of the association. He succeeds F. H. Ludington, president of Chase Bag Company, who has headed the association for the past three years. Previous to that, he served for eleven years as vice-president. Mr. Ludington will continue as a member of the Executive Committee.

The Association adopted a resolution of appreciation for the benefits which have resulted to the industry and to the public at large through Mr. Ludington's efforts during his term of office, and presented him with a handsome gold wrist watch.

Fertilizing Lima Beans

Studies completed by the Delaware Experiment Station indicate that a new lima bean variety named "Peerless" is the latest gain on the truck crop front for a processing bean of superior quality for freezing and canning. The studies further showed that for a maximum yield 1,000 pounds of a 5-10-10 fertilizer rather than 500 pounds of the same fertilizer were more profitable when broadcast. Fertilizers applied by the band or plow-sole method were more effective than broadcasting or drilling.

Fertilizer Pays on Arkansas Cotton

Benefit of fertilization for cotton production was clearly demonstrated last year on the J. T. Robinson farm in Craighead County, Arkansas.

Several tenants operate different parts of Mr. Robinson's farm, explains County Agent John M. Cavender. One tenant, who cultivated 10 acres of cotton, applied 100 pounds of ammonium nitrate and 100 pounds of 50 per cent muriate of potash per acre. On the ten acres, the tenant produced 6,542 pounds of lint cotton, gross income from which was \$178 per acre.

Another tenant, who did not have adequate amounts of nitrate or potash, made a gross income of only \$107 per acre. This made a difference in gross income of \$71 per acre. Two other tenants made a gross return of about \$40 less than the one who fertilized.

St. Regis Paper Company Reports Increased Sales

The annual report of St. Regis Paper Company and subsidiaries for the year ended December 31, 1948 shows net income at \$14,859,803, equal, after preferred dividends, to \$2.71 a share on the common stock outstanding. This compares with \$14,631,325, equal to \$2.66 a share on the common stock, in the preceding year.

For the fifth year in succession, the company's volume of business increased over the preceding year, with net sales mounting to a new peak of \$162,672,926, compared with \$143,864,583 in 1947. Total assets rose to \$157,621,409 from \$132,643,598 at the end of the preceding year, while net working capital at the end of 1948 is shown at \$42,893,318, compared with \$36,444,187 at the close of 1947.

The report to stockholders, over the signature of Roy K. Ferguson, president and chairman, points out that the profit last year represented a smaller percentage of sales than in 1947, "due primarily to increases in costs that were not offset by comparable increases in the selling price of our products."

According to the report, multiwall bag sales have risen steadily since the war, and



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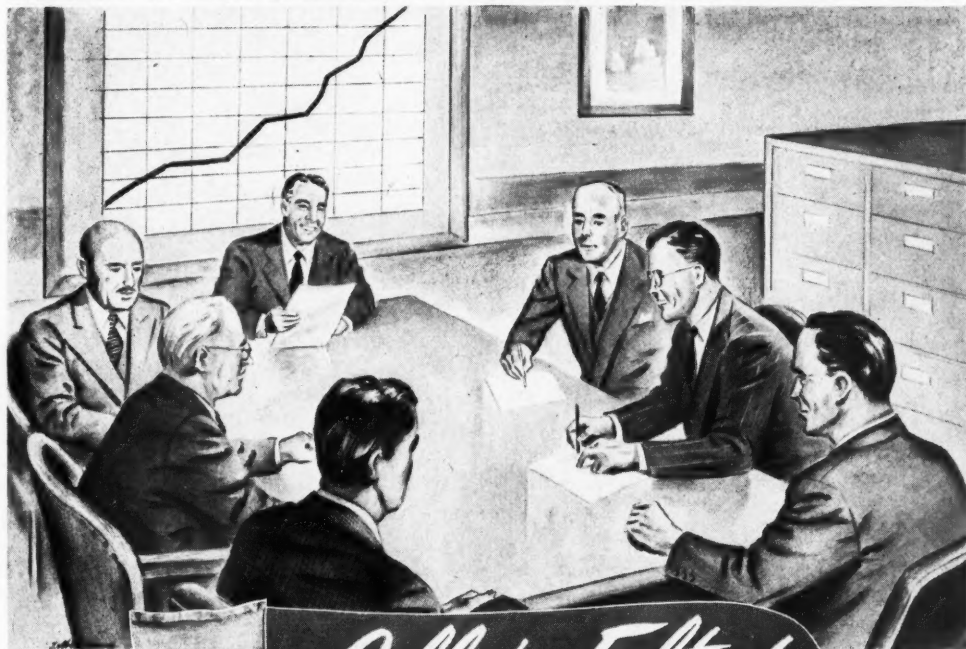
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Investigate Fulton W. P. P. L. Textile Bags for your product. It may prove a most profitable inquiry.

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Men who know their markets best know that the quality and appearance of their bag package have a lot to do with sending sales upward. That's why these men go to Fulton before they go to market.

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in 1948 the company increased its bag sales by 19.6 per cent over 1947. Many new developments are reported by the company in its multiwall bag and engineering divisions, including new and advanced equipment and types of bags. States the report: "The technical and sales promotion departments have been preparing the way for entry into several new fields for multiwall bags which are expected to materialize in the near future and produce volume sales when fully developed."

Lion Oil Reports 1948 Record Operations

The steady growth of Lion Oil Company over the past decade continued unabated during 1948 with all of its operations again setting new records, according to the company's annual report.

Net income for 1948, the report showed, climbed to \$11,722,432, equal to \$10.02 per share, compared with \$7,991,287, or \$6.83 a share, in 1947, while gross income of \$66,645,121 contrasted with \$54,250,031.

"The active expansion program in all divisions of the company gained momentum in 1948, and the results achieved should continue on a broader scale in 1949," stated the Lion Oil Company annual report to stockholders.

The company spent \$20,700,000 for additions to production, manufacturing and marketing facilities during 1948, including purchase from the Government of a chemical plant near El Dorado, Ark., for a cash consideration of \$10,500,000.

"In order to provide funds for the expansion of productive facilities and for the additional working capital required by the increasing volume of products manufactured and sold, the company retained in the business the larger portion of the earnings for the year," the report stated. In addition, the long-term debt was increased by issuance and sale of \$20,000,000 of 3¾ per cent debentures, due January 1, 1968. At the time of that issue 3¾ per cent debentures, due June 1, 1959, in the amount of \$5,600,000 were redeemed.

"The chemical division has assumed an important position in the company, with cur-

rent sales of chemical products being about 22 per cent of gross revenue," the report stated. This would indicate that the chemical division did a business of about \$15,000,000 in 1948.

Since purchase of the El Dorado chemical plant, the report added, the chemical division "may be expected to increase further its relative importance in the company."

In the company's objectives for this year, primary emphasis will be on: (1) Further development of crude oil and natural gas production and reserves; (2) Expansion in the chemical division to increase and diversify its operations, and (3) Research to develop new methods and new products.

The report featured a series of ten-year growth charts, which showed that last year's net income of \$11,722,432 compared with only \$414,826 in 1939; the number of employees rose to 2,079 from 928, and annual payrolls increased to \$7,598,730 from \$1,785,308. Total assets of \$63,875,852 at the 1948 year-end compared with \$17,274,431 at the end of 1939.

The December 31, 1948 balance sheet listed net working capital at \$16,316,285, up \$6,986,861 from a year earlier, with ratio of current assets to current liabilities at 3.01 to 1 against 2.26 to 1 at the close of 1947.

Synthetic Sulphate of Ammonia in 1948

The report of the U. S. Bureau of Census showed that production of synthetic sulphate of ammonia during 1948 totaled 195,441 tons, compared with 197,029 tons in 1947. This

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slight decline was caused by a production drop during August, when only 7,123 tons were produced, which was less than half the normal monthly figures. During the last four months of the year, the output increased each month, with December recording 26,118 tons. If this level can be maintained during 1949, the output for the current year will be 50 per cent above 1948.

In addition to the above production, the output of by-product sulphate of ammonia during 1948, as reported by the U. S. Bureau of Mines and the National Fertilizer Association, was 830,938 tons and an additional 30,825 tons were manufactured at the by-product plants from purchased synthetic ammonia. This brought the total output of sulphate of ammonia during 1948 to 1,057,205 tons, an increase of 40,000 tons over 1947.

Exports during the year came to 210,491 tons and imports were 105,887 tons which left the supply available for domestic use at 952,600 tons.

Feeding Requirements of Asparagus

Writing on asparagus, O. B. Combs, Horticulturist at the University of Wisconsin, says: "The growth and feeding habits of the asparagus plant, along with its continued presence in the same soil combine to make fertilization of the established plant one of the asparagus grower's most important tasks. Research and experience indicate that where manure is available 10 to 15 tons per acre should be applied and disked into the soil together with the asparagus tops each year either late in the fall or before growth starts in the spring.

"If sufficient manure is not available, it is suggested that the nitrogen carrier be applied in early spring at the rate of around 300 to 400 pounds per acre. Either ammonium nitrate (32.5 per cent nitrogen) or calcium cy-

anamid (20.6 per cent nitrogen) is suggested for this purpose . . . In addition to the liberal use of manure and commercial nitrogen it is also suggested that the mixed fertilizer be applied before growth starts in the spring. Such mixtures as 6-6-18, 9-9-18, and 3-12-12 applied at the rate of 1,200 to 1,500 pounds per acre are suggested. These mixtures may be drilled into the soil as deeply as practical or applied with special deep placement equipment."

Wisconsin Potato Experiment Reported

Writing in the October, 1948 issue of the *American Potato Journal*, K. C. Berger discusses soil fertility investigations with potatoes. In his summary on fertility experiments which were started in 1942, he says: "Analyses of virgin and cultivated Northern Wisconsin soils show that when potatoes are grown on these soils from ten to thirty years, the available phosphorus and soluble manganese content and acidity are increased, while the available potassium, calcium, and magnesium contents are seriously depleted."

Field experiments have demonstrated that for broadcast application a 6-6-18 fertilizer at the rate of 1,200 pounds per acre has given higher yields than have analyses with higher or lower nitrogen, phosphate or potash. These fertilizers were also applied with a uniform application of 3-12-12 in the row. Applications of more than 800 pounds per acre of fertilizer in the row were not beneficial. An average of experiments on nine fields in seven years shows that the application of 800 pounds of 3-12-12 in the row increased the yield over the unfertilized about 60 bushels per acre. The additional application of 1,200 pounds of 6-6-18 gave a further increase of 80 bushels.

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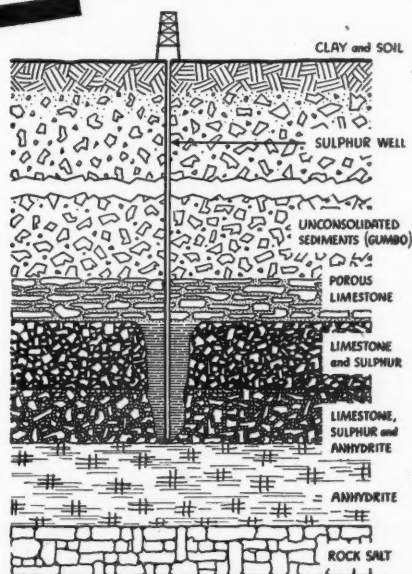
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CONGRESSIONAL HEARING ON NITROGEN SHORTAGE

(Continued on page 8)

held in abeyance until the future can be better gauged.

On the last day of the hearings, representatives of the Army stated that it expects to take over all of the fertilizer export requirements of the United States in the coming fertilizer year which private industry does not wish to undertake and thus leave the industry free to distribute domestically all of its production of agricultural nitrogen.

Conversations are now underway to this end among the government agencies and no legislation would be needed for its accomplishment, it was stated. At the present time the Army is required to supply 50 per cent of the export requirements of the United States under the IEFC nitrogen allocation program.

It was also stated by Col. R. C. Norvell, of the office of the food administrator of the Army, principal witness before the committee, that steps are being taken looking towards the leasing of the Ohio River ordnance plant to private industry. He could give no indication, however, as to when this would be done, but said that orders have been issued to expedite the leasing.

He estimated production of nitrogen at the three Army plants, the Ohio River plant, the Morgantown plant, the San Jacinto plant, and at the Cactus plant leased to Phillips Chemical Company, at 352,000 tons of nitrogen for the coming year.

Shipments of Army nitrogen to Germany will be unnecessary in the new year, Col. Norvell said, because of increased production of nitrogen in Germany, but exports to Korea are scheduled to be increased from 89,000 tons to 150,000 tons and to Japan and the Ryukus from 87,000 tons to 130,000 tons.

Col. Norvell told the committee that the Army was in favor of repeal of the Morse

amendment, which requires the Army to make available 10 per cent of its anhydrous ammonia to private industry, because it has the undesirable effect of putting the Army into the buying and selling of fertilizers.

Legislation modifying the two laws now on the statute books relating to the Army's participation in the fertilizer export program, and providing for distribution of Army anhydrous ammonia to needy ammonium sulphate producers, will be recommended by the fertilizer subcommittee of the house committee on agriculture as a result of its investigations of the fertilizer situation just completed.

Chairman Abernethy said that the committee would have some recommendations to make for changing the two laws, although he could not detail them at this time. It appeared likely, however, on the basis of the testimony presented at the week of hearings in the investigation, that two proposals would be made:

1. A change in the present system of distributing the anhydrous ammonia, made available to industry by the Army under the Morse amendment to the ECA appropriations act last year, to enable a larger number of fertilizer manufacturers to share in the distribution. This could be done by wiping out a requirement that the manufacturers must have been in operation prior to enactment of the amendment on June 28, 1948, in order to be eligible to participate in the distribution.

2. An increase in the proportional share of fertilizer materials which the Army will have to supply in the commercial export program. At the present time the Army supplies 50 per cent of the export commitment under the International Emergency Food Committee allocation program, in addition to meeting 100 per cent of the requirements of the occupied areas, while private industry supplies the remaining 50 per cent.

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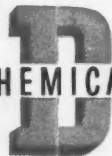
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